

Appl. No.: 10/766,753  
Amdt. Dated 08/03/2007  
Reply to Office Action of 04/03/2007

### **REMARKS/ARGUMENTS**

In view of the foregoing amendments and following remarks, favorable reconsideration of the pending claims is respectfully requested. Claims 1 – 14 are pending. Claims 15 – 28 have been withdrawn. Claim 29 has been cancelled. Claim 1 has been amended.

#### ***Rejections under 35 U.S.C. § 112, first paragraph***

Claims 1 – 14 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Office Action alleges that the specification provides no support for the language “a difference of refractive index of 0.03 or greater”. Applicant disagrees with this assertion. However, in the interest of expediting prosecution, Claim 1 has been amended to recite that the difference of refractive index is at least 0.03. Support for this amendment can be found, for example, on page 10 of the present application wherein it is specifically stated that the copolymer components have a refractive index difference of 0.03. In fact, page 10 also gives specific examples that illustrate the difference in the index of refraction can be greater than 0.03. Pages 9 – 10 further elaborate that it is contrary to conventional wisdom to obtain good optical properties in compositions having elastomeric copolymers that exhibit refractive indices differing from those of the cycloolefinic copolymers. In contrast to this conventional wisdom, the discussion on pages 9 – 10 explains that the claimed invention provides excellent optical properties at differing refractive indices, such as 0.03 or greater. As explained in greater detail below, this is a surprising and unexpected result. Stated differently, the specification teaches that the claimed invention is able to obtain excellent optical properties despite exhibiting a refractive index difference of at least 0.03. From the discussion on pages 9 and 10, and the specific examples of refractive indices greater than 0.03, one of ordinary skill in the art would readily understand that the claimed invention is directed to a polymer composition in which the recited components have a difference in refractive indices that is at least 0.03. The Federal Circuit has repeatedly emphasized that “the invention claimed does not have to be described in *ipsis verbis* in order to satisfy the description requirement of § 112,” See *Union Oil Co. v. Atlantic Richfield Co.*, 208 F.3d 989, 1000 (Fed. Cir. 2000). It is clear that the present application supports the recitation that the difference of refractive index is at least 0.03, and to conclude otherwise goes against the rule that the invention

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claimed does not have to be described in *ipsis verbis*. It is therefore respectfully requested that the rejection under 35 U.S.C. § 112, first paragraph, be withdrawn.

***Rejections under 35 U.S.C. § 102(b) and 103(a)***

Claims 1 – 7 and 10 – 12 have been rejected under 35 U.S.C § 102(b) and 103(a) as being anticipated by, or in the alternative, obvious over U.S. Patent No. 4,918,133 to Moriya. Claims 1 – 7 and 10 – 12 have been rejected under 35 U.S.C § 102(b) and 103(a) as being anticipated by, or in the alternative, obvious over U.S. Patent Publication No. 2002/0128392 to Zen. Applicants respectfully traverse these rejections.

***a. Rejections based on Moriya***

In order for a prior art reference to anticipate a claim, each and every element recited in the claim must be found expressly or inherently in the prior art reference. Further, to establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim elements. In the present case, Moriya does not disclose or suggest any one of the following:

- 1) a polymer composition having "at least one saturated alkene mer";
- 2) a refractive index difference between the polymer components that is at least 3 %,  
and
- 3) a haze value of less than 10 %.

Moriya describes a polymer composition that is a blend of A, B, and optionally C, where A is a cycloolefin copolymer and B is a non-rigid copolymer selected from one of four groups: (i) cycloolefin-type random copolymer; (ii) alpha-olefin type elastomeric copolymer formed from at least two alpha-olefins; (iii) alpha-olefin type elastomeric copolymer formed from at least two alpha-olefins and at least one non-conjugated diene; and (iv) aromatic vinyl type hydrocarbon - conjugated diene copolymers (which would describe styrene-butadiene copolymers). C is an organic or inorganic filler. Not one of the copolymers recited in group (B) is a saturated alkene mer. The Office Action alleges that butadiene is a saturated alkene monomer. However, butadiene includes two double bonds and cannot therefore be considered a saturated alkene mer. The Office Action further cites the paragraph bridging columns 17 and 18

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as describing the elastomer constituent. A review of this paragraph reveals that none of the copolymers described therein is a saturated alkene mer. In particular, the specific examples described in the cited paragraph are either butadiene or isoprene, which both include two double bonds and cannot therefore be considered a saturated alkene.

In contrast to Moriya, independent Claim 1 recites at least one non-halogenated elastomeric copolymer comprising at least one aromatic vinyl mer and at least one saturated alkene mer, such as styrene-ethylene-butylene-styrene and styrene-ethylene-propylene-styrene. Accordingly, Moriya fails to disclose or suggest each and every claim element recited in independent Claim 1, and therefore it is respectfully requested that the rejections based on this reference be withdrawn.

Further, there is absolutely no basis for asserting that the compositions described in Moriya embrace a composition having a difference in refractive indices of at least 3 %. Such an assertion is based on pure speculation and is not supported by the teachings of Moriya. To support this assertion, the Office Action states that since the reference is silent with respect to the recited difference in refractive indices, the difference must be present. However, there is no teaching in the reference that can reasonably lead one to reach this conclusion. The fact that Moriya is silent about the difference in refractive indices does not support the conclusion that the difference is present. Applicants respectfully request that the basis for this rejection be withdrawn.

Moriya also fails to disclose or suggest a composition having a haze value of less than 10 %. In fact, one of ordinary skill in the art upon reading Moriya as a whole would conclude that Moriya does not teach a composition having a haze value less than 10 %. In particular, the accompanying Declaration under 37 C.F.R. 1.132 by inventor Dr. Miranda explains that a careful reading of Moriya reveals that Moriya is directed to improvements in impact resistant and heat resistance of the composition, and is not at all concerned with the optical properties of the composition. As such, one of ordinary skill in the art would expect the compositions described in Moriya to have a haze value of greater than 10 %. As further explained by Dr. Moriya, this conclusion is further reinforced because Moriya teaches that a filler can be added to the composition. The addition of a filler would significantly reduce the optical properties of the

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composition, such as haze, due to light scattering. As such, one of ordinary skill in the art would expect the composition described in Moriya to have a haze value greater than 10 %.

Finally, the claimed invention provides surprising and unexpected results. As set forth in paragraph 4 of the Declaration of Dr. Miranda, differences in indices of refraction between polymer components results in a reduction in the optical properties of the composition, and according to conventional wisdom, one of ordinary skill in the art would expect that a difference in refractive index of greater than 0.015 to cause a reduction in optical properties. For example, *Rubber Toughened and Optically Transparent Blends of Cyclic Olefin Copolymers* to Khanarian (hereinafter referred to as “Khanarian”); U.S. Patent No. 5,854,349 to Abe et al.; and EP 0995776 to Miyamoto et al., which were previously cited by the Examiner, repeatedly teach that to obtain good optical properties, such as low haze, the polymer components must be index matched. In fact, Khanarian, Abe, Miyamoto all specifically teach that to have improved optical properties (e.g., haze values) the elastomeric component and the cyclic olefin component need to be refractive index matched. For example, Miyamoto and Abe teach that the difference between refractive index for the components is at most 0.015. Further, Khanarian explicitly states “[t]he other elastomers were not index matched and so could not be used in making transparent blends.” See page 2596. Table 2 of Khanarian shows that the index matched compositions described in Khanarian had a difference in refractive index of 0.004, which is well below the recited value of at least 0.03. From these references and conventional wisdom, one would expect that a difference of at least 0.03 in the refractive indices would result in compositions having haze values significantly greater than 10 %. However, Dr. Miranda and his coinventor unexpectedly discovered that the claimed composition exhibited haze values less than 10 % despite having a difference in refractive index of at least 0.03. As explained in paragraph 5 of the Declaration, Dr. Miranda found this result to be surprising and contrary to conventional wisdom. Thus, it is evident that the claimed invention provides surprising results that are not disclosed or suggested by the cited reference.

In view of the foregoing discussion, it is evident that the claimed invention is not anticipated or rendered obvious by the teachings of Moriya, and it is respectfully requested that the rejection based on this reference be withdrawn.

***Rejections based on Zen***

Zen also fails to disclose or suggest the claimed invention. Specifically, Zen does not disclose or suggest a composition having any one of the following:

- 1) a refractive index difference between the polymer components that is at least 3 %;  
and
- 2) a haze value of less than 10 %.

Zen fails to disclose or suggest a composition in which the polymer components of the composition have a refractive index difference that is at least 3 %. As in the discussion above with respect to Moriya, there is absolutely no basis for asserting that the compositions described in Zen embraces a composition having a difference in refractive indices of at least 3 %. Such an assertion is based on pure speculation and is not supported by the teachings of Zen. To support this assertion, the Office Action states that since the reference is silent with respect to the recited difference in refractive indices, the difference must be present. However, there is no teaching in the reference that can reasonably lead one to reach this conclusion. The fact that Zen is silent about refractive indices does not support the conclusion that the difference is present. Applicants respectfully request that the basis for this rejection be withdrawn.

Further, Zen does not teach a composition having a haze value of less than 10 %. In fact, as explained in the Declaration of Dr. Miranda, the compositions of Zen would have a haze value significantly higher than 10 %. In paragraphs 9 and 10, Dr. Miranda explains that the components of Zen (namely, (A), (B), and (C)) are incompatible with each other and would result in a composition having a milky or opaque appearance. As a result, the composition of Zen would not have a haze value less than 10 %. In addition to these compatibility problems, Zen also teaches the inclusion of component (E), which is described as a pigment. The inclusion of a pigment leaves no doubt that the composition of Zen would have a haze value significantly greater than 10 %. Thus, Zen also fails to disclose or suggest a composition having a haze value of less than 10 %. Finally, the above discussion with respect to Moriya makes clear that the recited haze values are unexpected and surprising. As such, the claimed invention is patentable over the Zen for this additional reason.

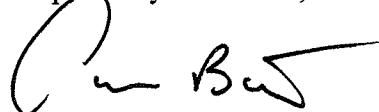
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In view of the foregoing discussion, it is evident that the claimed invention is not anticipated or rendered obvious by the teachings of Zen, and it is respectfully requested that the rejection based on this reference be withdrawn.

**Conclusion**

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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